

# EDITORIAL



Trade-Mark Registered and Contents Copyrighted, Earl R. Allured  
Subscription Price, \$3.00 the year. Single Issues, 50 cents.

**A Specialized Technical and Commercial Magazine for  
Confectionery Superintendents, Purchasing  
Agents and Executives**

Published Monthly on the 15th by  
**The MANUFACTURING CONFECTIONER PUBLISHING CO.**  
30 North La Salle St., Stock Exchange Bldg.  
**CHICAGO**

New York Office, 5 Cortland Street., R. W. Younie, Mgr.

EARL R. ALLURED,  
Editor - Publisher.

M. BENNET KOVNAI,  
Vice President.

PRUDENCE M. WALKER,  
Circulation Manager.

## Price Cutters, Beware!

It is encouraging to see the many evidences of a determined finish fight on price-cutters. The Mar-O-Bar Company of Minneapolis have put into effect on February first, beginning with the northwest states, a new plan to control the resale price of "Milky Ways" by supplying only the jobbers who maintain the established price to the retailer. The attack is directed especially against the illegitimate jobber whose only sales weapon is a cut price; the plague of small, irresponsible jobbers which has struck the candy industry the last few years is a demoralizing element anyway, and it would seem that manufacturers would get together and stem this tide of destructive price-cutting by selecting their distributors with the same care and exacting standards as they would their salesmen, as far as is practicable. The substantial jobbers are worthy of that protection, too. This subject will be discussed at length in next issue—the annual Sales Manager's Number.

## "Candy Is a Food—Not a Lubricant"

Our "inquiring reporter" took occasion recently to look over the equipment in the receiving department of a leading manufacturer of confectioner's machinery for the purpose of checking up on some of the statements which were published in our January issue in the article on "Care of Confectioner's Equip-

ment." He examined the machinery which had been sent back for repairs and was astonished to see on the shipper's tag the name of a manufacturer who we would have thought had an enviable "sanitary rating"! No wonder the machine had died young! The oil holes were clogged with candy, and the whole machine so gummed up that the friction was prohibitive and consequently a wreck when it should have been in its prime, functioning perfectly every day and capable of many years of service if only the proper care had been given it. It is significant to note that the financial rating corresponds quite favorably to the sanitary rating of the plant in question.

In lieu of the cooperative advertising campaign before the industry at this time, it behooves every manufacturer to do his utmost toward putting his house in order so that when the message of the industry goes out to the consuming public it will have the proper background on which to build and sustain a genuine consumer confidence in candy as an indispensable vehicle of sentiment and sustenance.

## Why Raise Duty on Cherries 500 Percent!

A new bill to amend the Tariff Act to raise the duty on imported cherries from two cents to ten cents per pound, has been introduced by Arthur M. Free of California. The bill further proposes to raise the rate on Maraschino cherries, and cherries prepared or preserved in any manner, from 40 per cent ad valorem to 80 per cent ad valorem.

It is our understanding that domestic cherries are not suitable for dipping purposes and therefore a prohibitive tariff such as Mr. Free's bill proposes would accomplish nothing for its supporters as far as the candy industry is concerned except to take off the market much of the popular chocolate cherry and cordial work.

Unless our domestic packers can produce a cherry of suitable size and texture to use for dipping purposes the candy industry will protest against any measure to raise our costs on these goods. We would like to hear from our California readers on this point.

This bill, No. H. R. 4086, is now before the House ways and means committee. If manufacturing confectioners will get in touch with members of the committee, House office building, Washington, D. C., it will help greatly to clarify the situation by presenting the viewpoint of the consumer. The American packers of imported cherries, who are always ready to use the domestic product when possible, are entitled to this cooperation.



## Control of Insect Infestation in Nuts—(2) and all other raw materials in confectionery

by *Norman W. Kempf*

(Continued from January Issue)

**T**HE first article of this series considered the sterilization of nutmeats entering the candy factory. The second step in the control of insect infestation is to protect the sterilized nutmeats from reinfestation during their manufacture into candy.

This danger can be minimized by storing treated nutmeats only in metal containers provided with tight-fitting covers. However, since it is not possible to keep all candy protected in this way, and covers frequently are left off, it is the better plan to concentrate our efforts to combat the moth.

Complete elimination of the moth from the candy factory can only be accomplished by a vigorous and carefully planned campaign. Once rid of it, it is necessary to exercise constant vigilance to prevent its return. It is the purpose of this article to describe those methods which are most effective in eliminating the moth, and the precautions to be taken in connection with their employment in food plants.

### Fighting the Moth in the "Pupa" Stage

Before fighting an enemy it is well to know something about him, and where he comes from. Referring to the life history of the moth, described in the previous article, the stage immediately preceding the formation of the adult moth is the pupa. The pupae are former larvae (small worms or grubs) which have crawled into cracks or corners and spun the cocoons in which they lie dormant during their metamorphosis to the moth stage. Practically all buildings in which nut products have been handled are well supplied with these pupae, hidden in crevices and corners where they are not ordinarily noticed. A steady supply of moths is forthcoming from this source during the summer months. Still another common source of the infestation is the incoming raw material which may contain the moth already in the pupa stage.

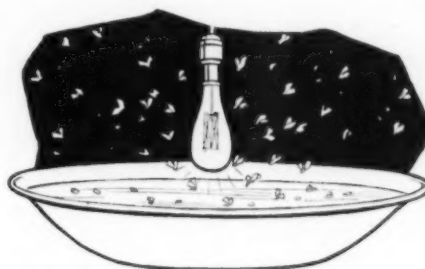
The most effective known method to combat the moth without injury to the materials themselves is to fumigate the entire premises with hydrocyanic acid gas. This gas kills all live moths, larvae and eggs in the factory without injuring candy raw materials in any way. Extensive tests have been made by the United States Department of Agriculture with this gas to prove that candy raw materials will quickly give up any of the gas they absorb during a fumigation. Many fumigations have already been made without any record of damage to the materials exposed.

### Methods and Hazards of Fumigation

*As the gas is intensely poisonous, it can only be used by experienced men.* In most large cities fumigations with the gas are carried out by firms licensed by and under the supervision of the municipal Board of Health. In conducting the fumigation all openings in the building are temporarily sealed by means of paper held on with paste or vaseline. The building is then cleared of human beings before the gas is introduced.

There are two adopted methods of applying the gas. The most convenient method, particularly where fumigations are carried out at regular intervals, is to pipe the building with small brass pipe leading to each room, and ending in spray-nozzles. The gas is purchased liquefied in tanks and pumped through these pipes into the sealed building. The concentration recommended by the Department of Agriculture is 5 ounces of liquid hydrocyanic acid for each 1,000 cubic feet of air space to be fumigated.

The other method is to generate the gas on the spot from chemicals. Barrels containing 40 per cent sulphuric acid are placed at strategic intervals throughout the building, and at the last moment the operator passes through, dropping in each a calculated amount of sodium cyanide in the form of "cyaneggs." Approx-



Moth Traps That Have Proved Effective

mately 10 ounces of cyanide are used for each 1,000 cubic feet of air space.

After twelve to twenty-four hours' exposure the building is opened and thoroughly ventilated before admitting any person not protected by a gas mask. As a rule, the entire fumigation requires from 36 to 48 hours and leaves the building in sterile condition. Afterwards the steady use of the moth traps described later should prevent the moth from regaining a foothold.

Incidentally, cyanide fumigation kills all rodents in the building. Before they are killed by the gas they run to open places, so that it is only necessary to pick them up from the floor after the fumigation.

#### Spray—the Next Best Thing

Where cyanide fumigation cannot be used and conditions are bad, the daily use of a spray is recommended. There are many non-poisonous insect sprays on the market of the general type of Flit, Flyosan or Vermispray. Care should be used in selecting such a spray to see that it does not contain nitrobenzol. This chemical is poisonous to humans, and not volatile, therefore it cannot be used in a food plant. Before spraying infected rooms, all foods, especially chocolate and nut products, must be carefully covered to prevent drops of the spray from falling on them, as they will easily take up the foreign odor and taste. During the spraying operation all windows and sources of draught should be closed, but opened later to insure good ventilation and rapid removal of the odor of the spray. It should be remembered that the spray is only effective against the flying moth and larvae, and that it *does not*

kill pupae and eggs, so that regular daily use is essential to kill off the moths as they develop.

#### Moth Traps Help

The use of moth traps is helpful, and the following traps are suggested for use during the night: Suspend a small electric light bulb so that it hangs about one inch over a pan of water, and let the light burn over night in an otherwise dark place. The moths are attracted by the light and drown in the water.

A variation of this trap is to make a cylinder of fly paper with the sticky side on the inside. Suspend the light bulb inside the cylinder.

Another effective moth trap is a flat pan containing water which has been used for blanching almonds. The odor of this water attracts the moths and as they fly into it, they are drowned. Many of these pans can be scattered through the factory each night and it will be found that they will make a good catch.

It is impossible to place too much emphasis on the importance of careful examination of arriving raw materials to prevent infected matter from entering the factory. Any materials containing either larvae or pupae should be immediately removed to a place of safety, so that the infection does not spread to sound merchandise.

Success in the battle against the moth is repaid by freedom from trouble, both with stored raw materials and finished candy. Remember that the worm a customer finds in a box of your candy was in all probability hatched from an egg laid by a moth in the factory. With this in mind, spare no expense in exterminating this pest from our industry.





(An Editorial)

# The Case For and Against the Cocoa Exchange

**T**HE attack of the New York Cocoa Exchange which was contained in the December issue of the *Confectioners' Review* leaves much to be desired both from the standpoint of impartiality and of constructive criticism. Obviously, any institution dependent upon the widespread support of the business community for its successful existence must have a few good points as well as bad. On the other hand, merely because the cotton, grain and sugar exchanges have justified their presence in their respective fields is no indication that the Cocoa Exchange will do likewise in a market for a more restricted and less staple commodity.

We have conducted a wide inquiry into the popular status and possibilities of this newest market, approaching the issues without bias, but with a definite determination to give the manufacturer the arguments on both sides of the fence, so that he may draw his own conclusions.

First, let us present—

## The Case for the Exchange

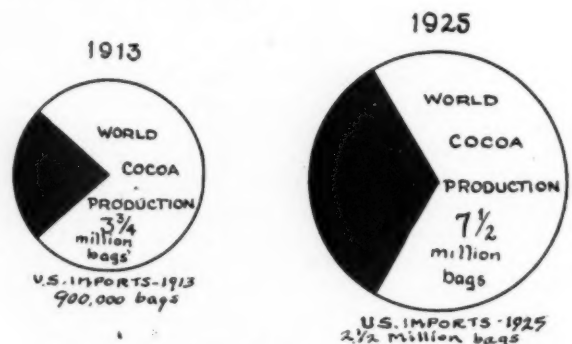
**T**HE Exchange is closely patterned after the coffee and cotton exchanges, and, according to its published announcement, "is designed to facilitate the movement of raw cocoa from the plantation to the factory and to reduce the risks heretofore incident to trading in this staple." The specific objects which it aims to accomplish are thus set forth in the Certificate of Incorporation:

1. To foster trade and commerce in cocoa, cocoa beans and cocoa products, in New York City and elsewhere.
2. To promote uniformity and certainty in trade customs.
3. To arbitrate and adjust controversies and misunderstandings arising in the trade.
4. To maintain just and equitable principles in the trade.
5. To acquire, preserve and disseminate useful and valuable trade information.

It will not be denied that these objects are commendable and highly desirable.

The N. Y. Cocoa Exchange is the first of its kind in the world. Its formation emphasizes not only the rapid growth of the cocoa industry but the increasing importance of New York as a distributing center for the commodity. Since 1913 world production of cocoa has more than doubled, increasing from 3,750,000 bags to 7,500,000 bags annually. The same period saw the importations into the United States tripled, the imports mounting from 800,000 or 900,000 bags to 2,500,000 bags a year. Over ninety per cent of these importations enter the country through the port of New York.

The *Gordian*, recognized spokesman for the



Progress of World Production and U. S. Imports

The illustration offers striking proof of the increasing importance of New York as a world center for the distribution of raw cocoa. In the twelve years from 1913 to 1925 world production of cocoa doubled. U. S. imports practically tripled during this same period, over 90 per cent of them entering the country through the port of New York.

German cocoa trade, on August 25th last issued this bitter commentary upon the prospective opening of the new exchange:

"Without doubt, the Hamburg cocoa market, which is constantly struggling with the New York market for precedence, will be severely injured by the opening of a cocoa futures exchange in the United States." Then, remarking that leading industries always shift to that market which furnishes the best market possibilities and the easiest means of doing business, this paper exclaims: "New York will absolutely acquire the ascendancy in cocoa trade through the opening of the exchange, and even have their own way on certain grades, and control the world cocoa market!"

When one considers that prior to the war Hamburg held the key to the cocoa situation this outburst is not without significance.

## Contract for Future Purchase of Actual Cocoa

Office of.....

SOLD FOR.....

TO.....

....bags Description of growth @...lb.  
and grade required

ex. dock New York

Usual good quality of the season, subject to approval of such by the undersigned broker on arrival.

(months of) shipment by steamer from.....

Sellers not responsible for any contingencies which may arise beyond their control. Duty free on basis of present tariff, any change to be for account of buyers.

TERMS: net cash 10 days from date of weighing and delivery.

# WHICH ?

Both call for delivery of an unseen product at a future time.

## Contract for Cocoa Futures

Office of.....

SOLD FOR.....

TO.....

30,000 pounds net of cocoa beans (in original shipping bags of average weight customary for the growth) THE GROWTH OF ANY COUNTRY OR CLIME, INCLUDING NEW OR YET UNKNOWN GROWTHS, deliverable from warehouses licensed by the New York Cocoa Exchange, Inc., in the Port of New York, between the 1st and last days of ..... next, inclusive; the delivery within such time is to be at seller's option upon notice to the buyer of either five, six, or seven days, as may be prescribed by the Trade Rules; THE COCOA IS TO BE OF ANY GRADE PERMITTED BY THE TRADE RULES; at the price of ..... cents per pound, for the Standard grade and growths, with additions or deductions for other grades and growths, according to the rates of the New York Cocoa Exchange, Inc., existing on the afternoon of the day previous to the date of the notice of delivery.

Either party is to have the right to call for margins as the variations of the market for like deliveries may warrant, which margins shall be kept good.

This contract is made in view of, and in all respects subject to the by-laws and rules and regulations established by the New York Cocoa Exchange, Inc., and all differences and/or disputes that may arise hereunder shall be settled by arbitration pursuant to such by-laws, rules and regulations.

For, and in consideration of one dollar to the undersigned, in hand paid, receipt whereof is hereby acknowledged, the undersigned accepts this contract with all its obligations and conditions.

(Fig. 3)

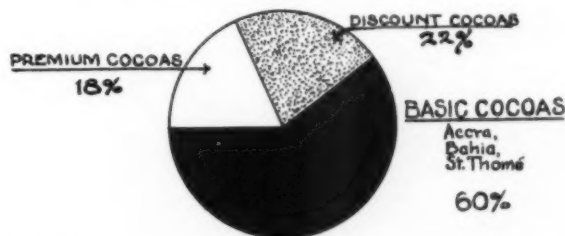
Certainly, a standardization of the customs and usages of the cocoa trade would not be unwelcome, nor have we any fault to find with their desire to maintain fair practices in the trade. And as for umpiring the constant disputes between dealers, importers and manufacturers, need anything be said?

The supporters of the exchange claim for it many distinct advantages over the older method of buying and selling for future shipment. To be brief, it is said:

That since 80 per cent of the world's production of cocoa is deliverable on exchange contract, it provides an open market-place for everyone interested in cocoa; and a free market tends to prevent monopolies.

That buyers and sellers may transact in a few hours on the Exchange business which would normally require days; and that because it makes business easier to transact, it also makes it cheaper to transact.

That the exchange is a stabilizer of price; when cocoa is too high the selling of futures against actual cocoa will tend to keep the price down, and when cocoa is at an attractive price at which manufacturers may cover their future requirements to advantage, the buying of futures will place planters in a more favorable position to continue the cultivation of cocoa for the following crop.



World Production of Cocos As Classified by the New York Cocoa Exchange

Since Accra, Bahia, and St. Thomé, the basic cocoas deliverable at par on the Exchange, comprise approximately 60 per cent of the world production of cocoa, it follows that they exert a dominating influence on the prices of all other growths. Exchange boosters argue from this that regardless of the particular grades which a manufacturer requires in his formula, he may cover or hedge on the Exchange on this basis of these three grades, and be proportionately protected against the fluctuations of the market.

That it enables the manufacturer to take coating contracts far in advance or for delivery over a period of months, and predetermine his cocoa-costs by the purchase of futures on the Exchange, until such time as he can secure the precise grades and growths required for his formulae, whereupon he resells his exchange purchases and applies his profit or loss on the transaction against the price of the actual cocoa. In this manner he may protect himself against any changes in price which take place in the meantime.

(See Fig. 3)

That the Exchange will facilitate the carrying of larger spot stocks by the jobbers, thus enabling the manufacturer to purchase his requirements of actual cocoas on sample and get the exact grades he desires, instead of being forced into the shipment market as heretofore, because of the comparatively limited spot stocks available. If he feels that the market is weak at the time he picks out his actual cocoas, he may hedge his purchase on the Exchange and buy it in again when the price is more favorable.

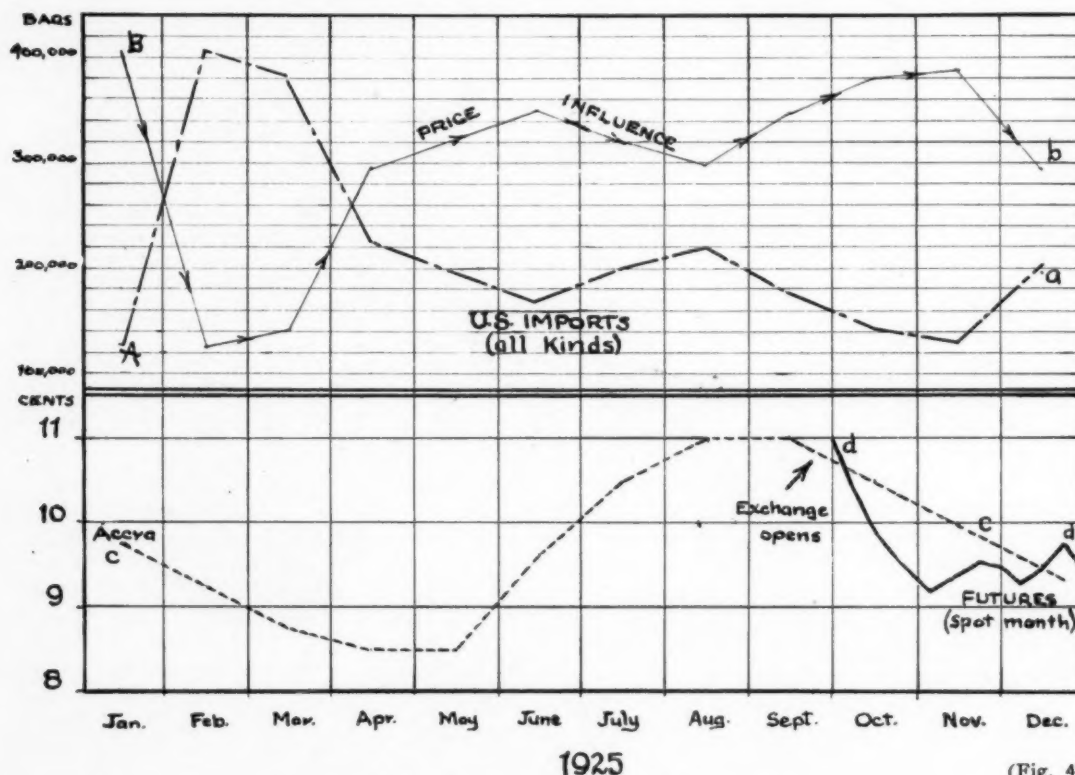
These are similar to the benefits claimed for every commodity exchange.

Mr. Louis Runkel, in his letter printed in the aforementioned issue of the Confectioners' Review, says, in part:

"The balance of the undelivered contracts . . . were 'washed,' which is the expression known by the exchange for the payment of money, either by the

buyer or the seller, according to the market, so as to annul the transactions instead of delivering actual cocoa beans . . . You may judge by this information whether it is possible for a manufacturer in our industry to establish any basis upon these transactions for actual cocoa beans in sight or on spot . . . These ridiculous amounts actually handled, compared to the consumption of cocoa beans, do not in any way affect the real conditions of actual cocoa beans and simply represent trading only."

The implication conveyed by Mr. Runkel in his otherwise sound letter, that because a purchase contract and a sale contract may be made to cancel each other through the channels of the Exchange, such trading is speculative and has no bearing upon the market for the actual commodity, is not borne out by the facts. Defending the economic soundness of this system of "washing" futures contracts, the National City



(Fig. 4)

#### Influence of Arrivals on the Price of Basic Cocoa

Line a-a, upper section, represents the total arrivals of raw cocoa at U. S. ports during 1925. Line b-b is the same line **in reverse** and shows the influence which these arrivals exert on the general cocoa market. During the first part of the year the price of Accras responded readily to increases and decreases in the supply of cocoa available. A "corner" reported to have been formed by a group of British interests is then credited with having carried the price up to the 11c level where, in spite of the bigness of the crop, they succeeded in holding it until October. At this point the New York Cocoa Exchange came into being. The subsequent short-selling of futures (line d-d), coupled with the usual "tailing off" of the fall demand, is then asserted to have broken the "corner" and accelerated the whole market's decline.



Bank stated in their business letter of November, 1923:

"— There is no possible way of determining at the time a contract is entered upon whether the parties intend to stand upon it to fulfillment or not; in other words, there is no way of distinguishing between so-called bona-fide and so-called speculative trading, and it is a poor remedy to abolish both; . . . every contract is in fact bona-fide, protected by guaranties and cancelled only by a subsequent contract of opposite effect. The intent of a trader makes no difference with the economic effects of his purchases or sales. Moreover, it is entirely legitimate for a trader to close out a future contract before its maturity, either because of change in the market situation or because he has changed his mind. There is no reason to suppose that the public is unfavorably affected by the exercise of such individual freedom; on the contrary, it is probable that the consensus of opinion as thus reflected in a free and broad market is nearer right than the opinion of any small group . . . is likely to be."

As to the effect of futures quotations upon the market for the actual commodity, let the record of other exchanges bear mute testimony. No one who has watched a sugar refiner average up the six positions of the futures exchange in order to decide whether or not to confirm the contract will maintain that the price of futures is a thing separate and distinct from the price of his raw material over the identical period of time. The futures and the actual markets keep constantly returning to a parity, the conditions in each reflected in the other.

The charge that the constant changing of hands tends to create fictitious values for the commodity and to definitely maintain them at a high and unnatural level is dispelled by the National City Bank as they continue:

(See Fig. 4)

"Such operations tend on the whole to stabilize prices and to prevent manipulation, rather than, as alleged by casual observers, to cause fluctuations and favor manipulation, particularly when as in the case of wheat and cotton great quantities come on the market rapidly and must be distributed over the year.

"Contrary to a common belief, the fact that a given commodity may change hands many times on the way from the producer to the consumer does not signify that every dealer makes a profit on it; or that the cost to the consumer is increased. It is possible that every dealer may lose money on it. Prices at any given time are not dependent upon what things have cost, but upon the market conditions at the time. The fact that a dealer has paid a given price does not enable him to get that price or a higher one, as every dealer has learned to his sorrow."

So much *FOR* the Exchange. If you are a dealer, or a manufacturer who would rather gamble than eat—if the picture at this point pleases you, do not read on. For apart from the inaccuracy just pointed out, Mr. Runkel's attitude was in a large measure justified. The Cocoa Exchange is not the Sugar Exchange and no amount of copied rules and by-laws can make it so. The opposition will take the floor:

## The Case Against the Exchange

### Why Was the Exchange Organized?

Its certificate of incorporation will give you five or more reasons why the Cocoa Exchange was created. But to those of us who are familiar with the past history of the cocoa trade in New York, the chief purpose of its formation is summed up in these words:

*"to settle differences between its members; to arbitrate and adjust, through suitable committees, controversies and misunderstandings between persons engaged in such trade, whether or not members of the corporation."*

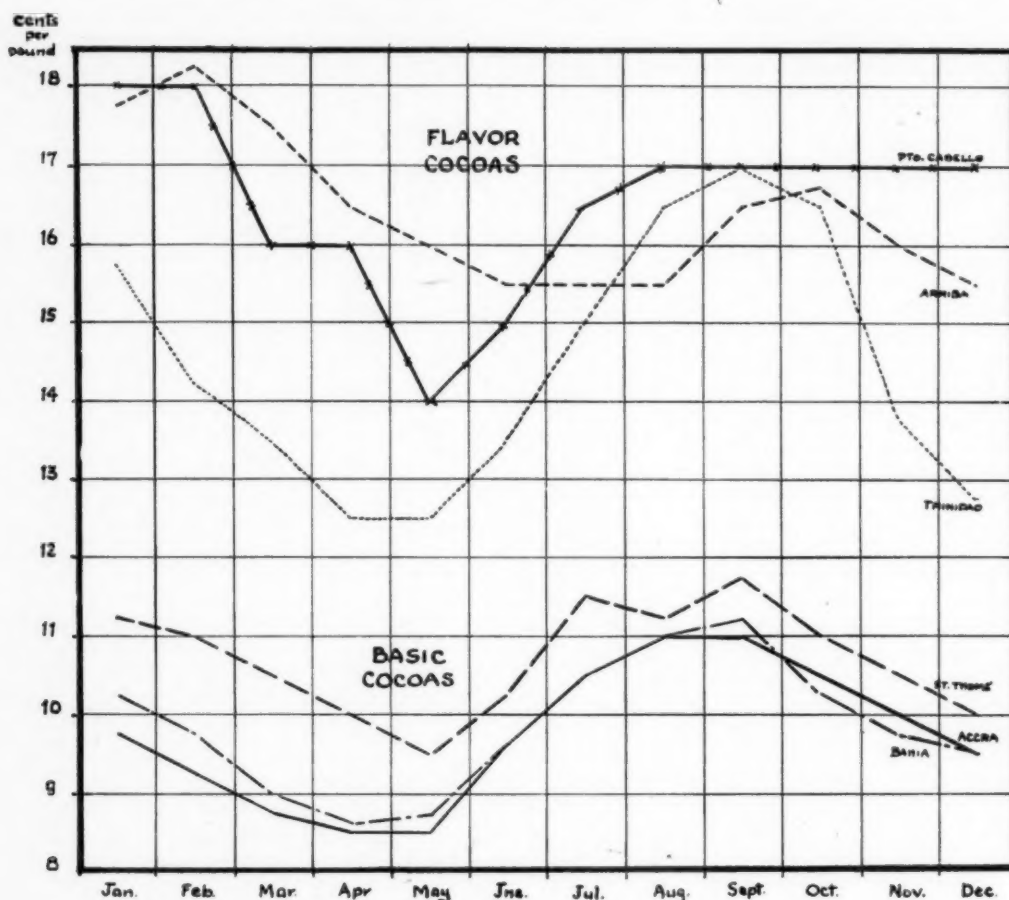
Back of this avowed purpose are years of bitter wrangling between the dealers, years full of involved and precarious trading and fraught with dangerous complications and technicalities, legal and otherwise. The Cocoa Merchants' Association was the immediate forerunner of this new institution. This earlier union of the dealers attempted to enforce a few rules to encompass these difficulties but failed signally.

(See Fig. 5)

In the opinion of a leading New York firm of

cocoa brokers, themselves members of the Exchange,

*"the Cocoa Exchange is primarily intended for speculators and dealers who conduct their business by buying or selling in New York, rather than depend upon their own importations for a livelihood. Their activity is usually centered in going long (buying in) large quantities when one or the other grade is scarce, so as to raise the market, thereby creating their profit; and when a high price is reached, by selling short several months ahead of when crop arrivals are expected, and consequently lower prices, after which they cover their short commitments. Whether the market drops or rises, this branch of the business is operating. However, having originated during war times, manufacturers have through experience been withdrawing more and more from these far distant future purchases, and operators were forced to depend largely upon dealings among themselves. Troubles in the form of numerous technicalities apparently rendered dealing among themselves too hazardous and it was decided to start an exchange with hard and fast rules."*



(Fig. 5)

#### Average Prices of Basic and Flavor Cocoas During 1925

Pto. Cabellos, Arribas and Trinidad have been chosen to represent the three major groupings of flavor cocoas, Venezuelas, Guayaquils and Trinidads respectively. The graphs of these grades conform to the fluctuations in basic cocoas in a general way only.

#### By Whom Was the Exchange Organized?

Was Mr. Runkel correct in asserting that the Cocoa Exchange was organized "by dealers, not importers"? Let us see. There were 29 incorporators, of whom 9 were brokers. The remaining 20 were disposed as follows:

|   |    |
|---|----|
| DEALERS (who do not depend upon their own importations for a livelihood)..... | 17 |
| Importers (who do not operate).....   | 3  |
| Producers and planters.....   | 0  |
| Manufacturers.....  | 0  |

There can be little doubt as to which of these groups formed the Exchange or for whose benefit they created it.

Yet, the fact that it was the dealers who were at the bottom of it at the start need not necessarily discredit the institution, provided its subsequent membership is sufficiently representative of the varied interests in the trade. But we find the same predominance of the dealer-

interests there and the same neglect of the two most important factors in the industry (from an economic standpoint), the producers and the manufacturers. Of 127 members representing 80 different firms, 17 of them located in foreign countries, there are:

|                              |    |
|------------------------------|----|
| DEALERS and SPECULATORS..... | 49 |
| Legitimate importers.....    | 14 |
| Brokers.....                 | 15 |
| Manufacturers.....           | 2  |
| Producers and planters.....  | 0  |

It is quite evident that it was the dealers who started it and that it is the dealers who are endeavoring to run it. But it must be said in fairness that the present character of the Exchange membership is significant only from the standpoint that it indicates the direction from whence its support has been forthcoming. Neither the producers nor the manufacturers are excluded from active participation in trad-



ing by their lack of seats on the Exchange, and for that matter if they wanted them badly enough they could buy them.

A commodity exchange, if it is to achieve that measure of usefulness expected of it by the business community which it serves, must have certain trade and market conditions under which to function. The National City Bank, in their letter previously quoted, took care to designate "a free and broad market" as the one on which their defense of the Exchange system was based. Does the cocoa market fulfill these conditions? Has the trade a free and unrestricted source of supply and is the market for the commodity broad enough to prevent manipulation?

There is still a third requirement which must be met if the Exchange is to operate, as its supporters claim, "to take the gamble out of future business." That is, that there must be an absolutely standard grade upon which to base all contracts, a common basis upon which to trade and in terms of which all other growths and grades may be accurately expressed. Have we such a standard in cocoa? Let us consider these points separately.

#### A Free and Unrestricted Source of Supply

To have a free market, the conditions under which the various crops are marketed must be competitive. It must be free from any suggestion of private or government control. Take for example sugar. The moment the price of sugar in any part of the world rises out of proportion with the world market sufficiently to offset the local differences in tariffs and ocean freights, sugars commence to pour in from all sides attracted by the increased profits of the temporarily higher market. The price is quickly restored to its normal relationship with the world market and the influx ceases.

The production of sugar is widespread and the interests of the producing countries sufficiently diverse to insure uninterrupted competition at all times. Not so with cocoa.

In the first place, the production of cocoa is confined to very limited areas. Two small regions on the West Coast of Africa (Gold Coast Colony and Nigeria) produce almost 50 per cent of the world supply of cocoa. Accra alone comprises 40 per cent, and, being three times as large as the next biggest crop (that of Brazil), holds undisputed control over prices.

This situation in itself might not be insuperable from an exchange standpoint, provided the crop were marketed competitively. But is it? A single firm handles the entire distribution of Accra cocoa. The planters are organized, the Gold Coast Farmers' Association working hand in glove with the British distributors. Thus it was possible last year, and is being attempted again this year, to form a corner on Accra early

in the year, and regardless of the actual outturn of the crop, force up the price and hold it there until the demand began to peter out in the fall.

Cotton is essentially a U. S. crop, but its production covers a very wide area, with competition between states and between growers exceedingly aggressive. Where have we a counterpart to this situation in cocoa?

Coffee, one of the oldest of the exchanges, is one of the least successful. Until the New York Coffee and Sugar Exchange added sugar trading to its activities in 1914, it could scarcely have been called a "going" concern. Not the least important reason for the failure of the exchange system in this commodity is the fact that two-thirds of the entire coffee production is regulated and controlled by Brazil. We cannot have a free market where there is government control. Read what Nortz & Co. have to say in their booklet "Coffee and Sugar Facts" respecting the effects of government regulation on coffee prices and ask yourself if any exchange can function properly under these conditions:

"— the State of Sao Paulo, and of late the Federal government, found it necessary repeatedly to give active support to planters through taking charge of the actual crop surplus weighing on prices. The principal interventions of this kind, called 'Coffee Valorizations' resulted in the following purchases of coffee:

|         |                 |
|---------|-----------------|
| 1907-08 | 10,868,000 bags |
| 1917-18 | 3,073,000 bags  |
| 1921-22 | 4,240,000 bags  |

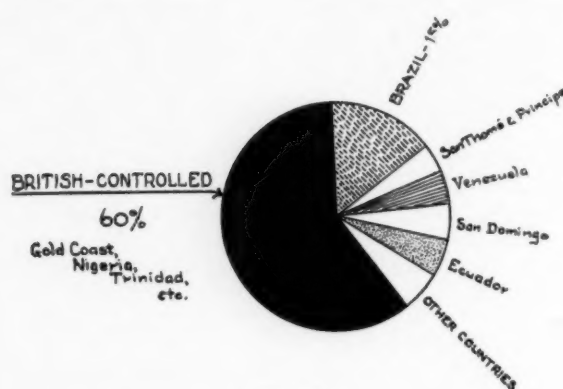
"The three operations were liquidated, due to subsequent crop failures, with large profits. It is not the place here to enter into the controversies and criticism which were raised at the time. Recently, coffee growers, with the co-operation of the different governments interested, decided in a change of tactics consisting mainly, in the application of a system tending to strictly regulate and limit arrivals of coffee at Brazilian ports . . . This new policy, inaugurated last year under the most critical circumstances and in presence of a bumper crop whose size is, as yet, unknown, together with liquidating sales of the Federal government, proved to be a complete success in that coffee prices, under the simultaneous effect of large buying by consumption, rose more than 60%."

(See Fig. 6)

The cocoa market is not free, certainly, from the hand of governmental authority. Great Britain's possessions, Gold Coast Colony, Trinidad, and various colonial islands, combined with the German cocoa-producing colonies which she took over during the war, give her absolute control over 60 to 75 per cent of the world's cocoa production, and, as with rubber, place her in a position to dictate price to the rest of the world. Can the Cocoa Exchange overcome handicaps such as this?

#### Is There a Broad Market for Cocoa?

A broad market is the second requisite of the properly functioning exchange. Wide distri-



(Fig. 6)

### British Control of World Cocoa Production

For an exchange to function successfully, we must have a free and untrammelled market. Based on 1924 estimates of the crop outturns, Great Britain controlled 60 per cent of the world's total production of raw cocoa, dominating the market completely.

bution of both producing and consuming factors is needed to provide full expression to the natural forces of supply and demand. The volume of business must be large enough to engage the attention of all classes interested in the commodity, and it must be a staple whose appeal is fairly universal.

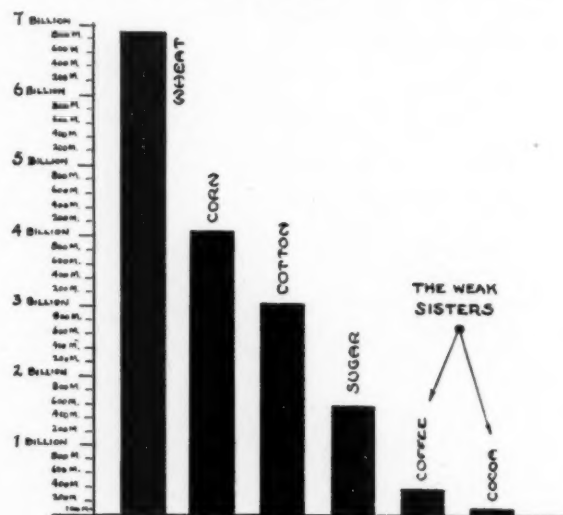
What have we in cocoa? *Production* is in the hands of a few powerful interests; *demand* is restricted to a single small group of manufacturers; and as for popular appeal, the average layman does not know cocoa beans from cocoa powder.

An exchange can be no bigger than the product with which it deals. Cocoa is one of the distinctly minor articles of commerce. The value of the entire world crop of cocoa at prevailing prices is less than 100 million dollars. It is only about one-fourth the value of the coffee crop, itself a doubtful criterion. Contrast these with the billion-and-a-half-dollar sugar crop, or the four-billion-dollar corn crop! The comparatively small amount of capital required to finance substantial portions of the world's supply of cocoa encourages the formation of "corners" and furnishes a constant incentive to illegitimate speculation.

Perhaps the best measure of the usefulness of an exchange is the amount of business it does. The average daily turnover of the sugar exchange is about 700 contracts the year round; coffee, under the present abnormal conditions only averages about 200 contracts a day, while the newest aspirant appears to have reached its stride with a maximum turnover of about 70 contracts, and an average of less than 40 lots a day for the first three months of its operation.

It is not surprising, therefore, that one of the

very dealers instrumental in organizing the Exchange should voice his disappointment over the unexpected (on his part) narrowness of trading: "If you go there with ten lots to sell, everybody knows what you've got and runs away." The larger dealers and legitimate investment houses regard the Cocoa Exchange as a sort of "pikers' paradise."



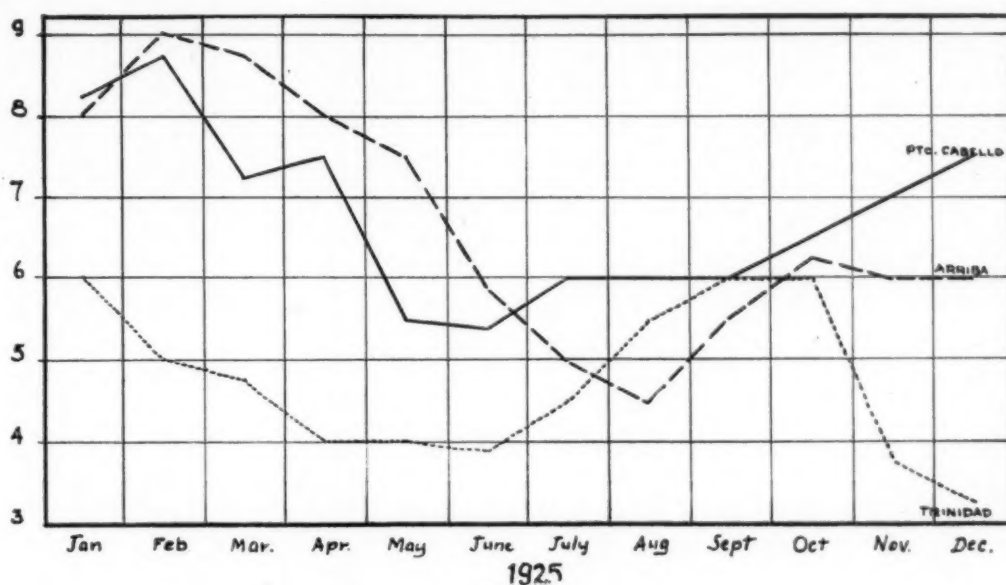
(Fig. 7)

### Comparative Values of World Crops Dealt In on the Exchanges

A second requirement for a successful exchange is that the market must be broad. The columns above will help you to visualize the comparative unimportance of the world crop of cocoa in the general scheme of things. Coffee has been unsuccessful as an exchange commodity, although the world crop is valued at something like four times that of cocoa.

To correct this narrowness of trading, we not only need a broad consuming demand and a great, wide distribution of supplies upon which to draw, but it must be possible to obtain these supplies on reasonably short notice if we are to avoid artificial manipulation. The imminent threat of being able to fulfill one's position on the Exchange is the factor which causes the majority of these transactions to be washed, for frankly there is no advantage in selecting this costlier method of delivery unless the buyer is in a worse position to take the tender than the seller is to make one, and is willing to sacrifice something to get out of it. The same thing applies to receiving deliveries through an exchange. If the buyer can gain a definite tactical advantage in trading by forcing the seller to deliver goods which he does not possess and will find it difficult to get, he would be a poor tradesman not to do so.

The better the position of both parties to give and take deliveries, the greater the proportion



(Fig. 8)

#### Variations in the Premiums Commanded by Flavor Cocoas Over the Price of Basic Accra

This chart refutes in a striking manner the claim that a manufacturer can predetermine a cost on flavor cocoas by buying and re-selling futures and applying the resulting profit or loss to his cocoa cost. To accomplish this, we must have a common language in which to trade—a uniform grade. All other grades and varieties must be capable of translation in terms of the standard grade, and to fulfill this condition the differentials between grades must be fairly constant or fixed. We would find the lines of the graph assuming horizontal positions, or nearly so, at fixed differences over the base price of Accra. Look at them!

of "washed" sales. Shorts on the Sugar Exchange can bring in a shipment of raws from Cuba in five days; it only takes two or three days to move grain shipments to Chicago or cotton to New Orleans or New York. But it takes two to three *weeks* to bring cocoa to New York, and you could do almost anything you wanted to the market in that time. The only safe way in which an individual can operate on the Cocoa Exchange is to have in New York at all times a huge stock of actual cocoa as a hedge protection, and to do so is expensive and economically unsound.

The long position is equally insecure. What manufacturer can use in his coatings *all* the grades and growths deliverable on the Exchange? Sugar refiners can refine and sell any test of sugar which may be delivered to them. A manufacturer trading in raws, if he can use sugars in the raw state, can almost always have them tolled for him, and use the refined product in manufacturing. The grain millers have an outlet for every grade deliverable on their exchange contracts. But the coating manufacturer who receives a tender of Sanchez or Lagos when his formulas call only for high

grade cocoas, is in a decidedly awkward position. Such a contract, if it is subsequently "washed," will most certainly be washed at his expense.

#### Have We a Standard Contract?

We have alluded to yet a third prerequisite of the successful commodity exchange—the standard grade. It must be a grade capable of exact definition, uniform at all times, a common language in which to trade. If, when a seller sells a contract of futures, he has one grade or quality standard in mind, and the buyer another, the result is Babel.

The standard contract in sugar calls for 96° centrifugals. The test is one of purity and may be chemically determined with great exactness. There are no other variable factors to be reckoned with in computing the quality; the buyer always gets what he buys. But in cocoa, there are many variables which are entirely overlooked in the superficial gradings of the Exchange. They are such important considerations as butter-fat content, color, flavor, uniformity of size affecting the roast, proper fermentation, etc., etc. How can the value of these abstract qualifications be determined?



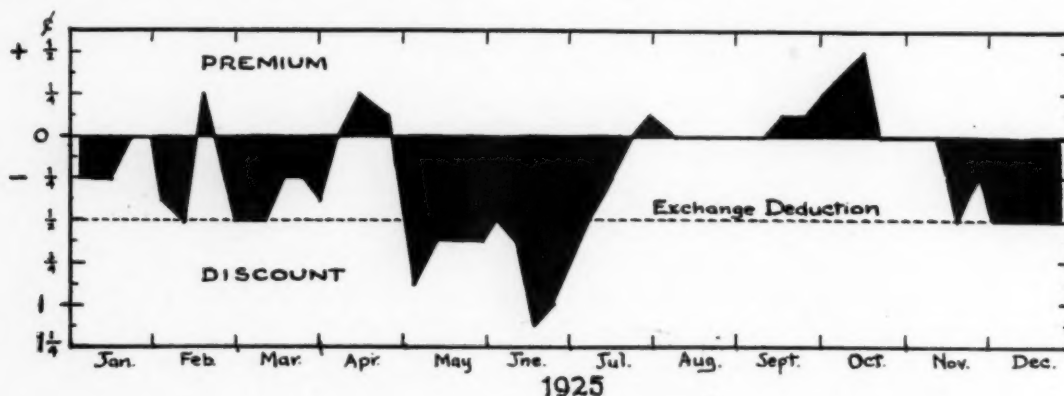
The relationship between various tests of raw sugar is fixed, consequently there is no need to resort to subterfuge or "penalty" differentials. The arbitrary differentials fixed by the Cocoa Exchange effectively *prevent* the delivery of premium grades and at certain seasons of the year when discount cocoas decline in the actual market out of proportion with the basic grades, *encourage* the delivery of inferior cocoas against Exchange contracts. (See Figure 9.) Where does this leave the coating manufacturer?

#### What Price Protection?

The chief argument advanced in favor of a manufacturer's participating in futures trading on the Cocoa Exchange is that in this manner he may protect himself against future changes in the market. The proponents of this theory, which works out well enough in other

fields, overlook one serious condition existing at present in the coating market, which is its utter demoralization! Every manufacturer of coatings will tell you the same story. He can only get a one-way contract; he *must* follow the market down. Whether this condition is expressly stated in the contract or not, every coating contract is, in a sense, guaranteed against decline. We may speak of this as unethical, uneconomic—call it by any name you will, and the cold fact remains. Of what value is fixed price insurance when the market declines below the predetermined cost?

You have heard both sides of the story, the case *for* the Exchange and the case *against* the Exchange. If we have seemed to lean too heavily on one side or the other, we are but passing along to you the preponderance of trade opinion in favor of that side. It is for you to decide which side has the better of the debate.



(Fig. 9)

#### Discounts and Premiums on Sanchez Cocoa

The horizontal line at zero marks the base price of Accra. The solid areas above and below the line show the premiums and discounts ruling on Sanchez. On deliveries of Sanchez the Exchange allows a deduction of  $\frac{1}{2}$ c from the standard grade. During May and June this cocoa is usually selling in the actual market at a discount of anywhere up to a full cent a pound, giving the person who delivers it in performance of an Exchange contract a  $\frac{1}{2}$ c profit or more (according to the soundness of the cocoa) on every pound delivered.

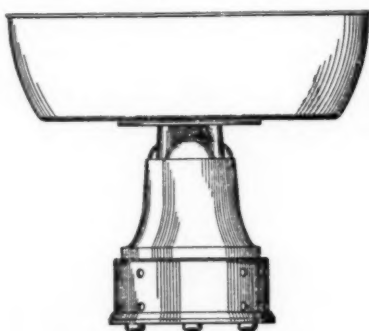
sting  
s its  
er of  
can  
y the  
ex-  
coat-  
against  
tical,  
and  
fixed  
elow

the  
t the  
heav-  
using  
ppin-  
ecide

## WHAT'S NEW?

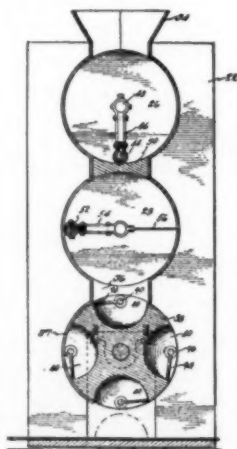
### New Patents

- 69,199. Casing for a Candy Machine. George E. Brent, Nashville, Tenn. Filed May 29, 1922. Serial No. 2,457. Term of patent 14 years.



The ornamental design for a casing for a candy machine, substantially as shown.

- 1,570,748. Candy-Making Machinery. James N. Kalkanis, Detroit, Mich. Filed Aug. 7, 1925. Serial No. 48,722. 12 Claims. (Cl. 107-8.)

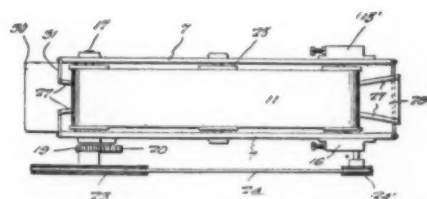


1. In a machine of the class described, a receptacle for molten candy provided with a discharge opening, a rotatably supported mold carrier provided with a series of molds which upon rotation of the carrier are brought into position to receive the discharge of such receptacle and upon further

rotation discharge the contents of the molds and a scraper mounted within the receptacle for oscillatory travel therethrough from one side of the discharge opening to the other without traversing the opening.

- 1,570,247. Confectionery Machine. Irvin J. Handlen, Green Bay, Wis. Filed Jan. 11, 1924. Serial No. 685,680. 1 Claim. (Cl. 107-9.)

A candy rolling machine, including a frame, a pair of belts trained longitudinally in the frame in parallel spaced relation and on an incline, means for moving the belts, and a guide structure disposed between ad-



jacent runs of the belts and comprising a pair of parallel side bars disposed in parallelism with the runs of the belts, the upper ends of said guide bars being flared outwardly from each other, and plate formed integrally with the under edges of said upper ends, said lower ends being flared outwardly from each other and bracket arms extending inwardly from the frame and attached to said lower ends.

- 1,569,568. Confection Cone. Hayes N. Pederson, Racine, Wis. Filed March 16, 1925. Serial No. 15,894. 1 Claim. (Cl. 229-1.5.)

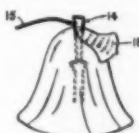
A confection cone comprising a conical paper body portion of double thickness throughout its lower and major portion, and of single thickness at its upper



portion, the upper portion being formed as a continuation of the inner layer of the paper cone, and a confection shell of truncated conical form lined and secured to the inner side of the upper portion of the cone, and having its lower portion overlapped by the upper edge of the double

thickness lower portion, and a tab free from the layers of the cone and formed integrally as a lateral continuation of the single thickness upper portion.

- 1,569,747. Candy Confection. Charles F. Haugh, Brooklyn, N. Y. Filed Dec. 21, 1923. Serial No. 681,996. 2 Claims. (Cl. 206-46.)



1. The combination with a candy confection having an ornamental form, of a wrapper of brilliantly colored, highly light reflecting foil wrapped

around said confection with the edges thereof protruding beneath the confection and folded thereunder, the foil wrapper being pressed into engagement with the confection to assume the shape thereof, and a supporting staple having two prongs forced through the wrapper and into the confection to form a support therefor.

# The Care of Machinery and Equipment

## Part 2. The Candy Department

**I**T IS a comparatively simple matter to make a machine and give instructions to the purchaser "to keep it clean." That phase of the problem of cleanliness of machinery and equipment was discussed in the first part of this article (in the January issue of this publication). Now comes the question of how the purchaser and user of candy machinery actually obtains that much desired cleanliness, which contributes so much to the efficiency and usefulness of the machine. What more appropriate source of authoritative information could be sought than to "ask the man who owns one"? No one better knows the value of cleanliness and how it is best obtained than the experienced candy manufacturer. It is he who has found the importance of certain procedures and who has experimented until he has found what appears to him to be the most efficient method of obtaining the best service from his machine.

As individuals differ, so their ideas differ. Two manufacturers of candy may obtain equally good products with quite different methods. In the same way the same men may have equally clean machinery and equally wholesome products, and yet have quite different methods of caring for their machines. Because of this fact it seemed highly desirable to get expressions of opinion from as many experienced individuals as possible. The following questionnaire was sent out to successful candy manufacturers with this purpose in view. The material received in reply has been compiled without any change of context and with only those comments included which came from the various individuals interrogated.

### Copy of Questionnaire Sent to Candy Manufacturers

1. *What methods and materials do you believe most practical for cleaning confectioners' machinery and equipment? And how frequently should cleaning be done in each department?*

- (a) Copper Work and utensils in the cooking department.
- (b) Chocolate Manufacturing and Coating departments: refiners, mixers, melting kettles, coating machines, conveyors

This concluding article presents a digest of opinions from confectionery plant managers and superintendents that will prevail in the most successful and progressive candy plants in America. This article is doubly valuable as it is compiled and edited by a competent, experienced candy manufacturer. We wonder how many "Foremen's Clubs" will like to hear from more of them.—Editor

by **Brooklyn Industrial Health Agency**

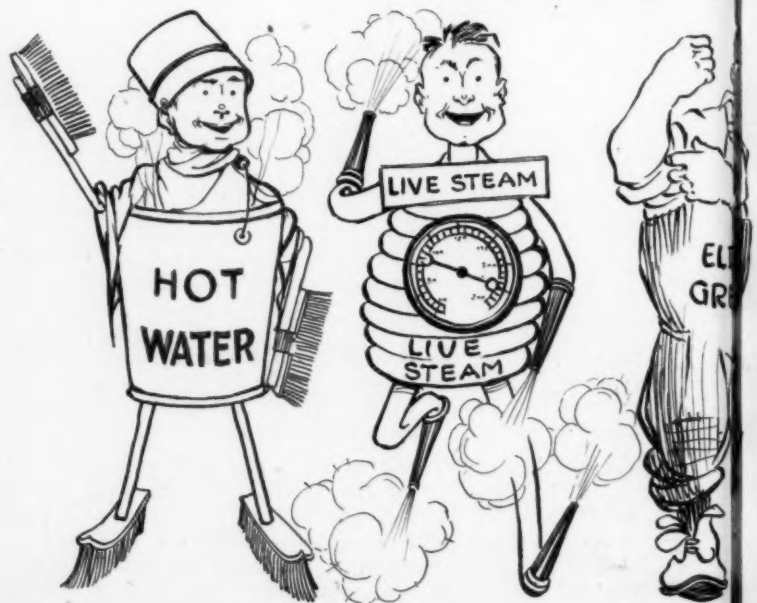
and cooling equipment, hand dipping equipment and utensils used in chocolate department.

- (c) Starch department: depositors, printers, bucks, mangles, also floors and walls of starch department.
- (d) Hard Candy department: slabs, batch rollers, cutters, presses, dies, etc.

2. *What precautions should be taken in cleaning methods and the use of cleaning materials to prevent damage to machinery or possible contamination of the product?*

(Are there any objectionable features about certain soaps, powders, compounds, etc., the use of live steam or certain cleaning tools?)

### The Machinery Man





# Eoment in a Confectionery Plant

## and manufacturer's Views

a digest of opinions of many of the leading confectionery manufacturers is a key to policies and practices which are being followed in candy manufacturing establishments in the United States. The valuable fact that this material has been prepared by a sanitary engineer. We suggest that this be the next of your production department heads. The candy industry! We would like to hear from you.—Editor

by Brown  
Health Laboratory

equipment. 3. Does it really pay the manufacturer, in cold cash, to keep equipment clean? Explain how and why.

- (a) Can production be sufficiently increased by sanitation, cleanliness and "good housekeeping" throughout the factory offset the necessary overhead cost of maintaining the plant in such condition?
- (b) Is labor efficiency and labor turnover affected by the policy and practice of cleanliness and sanitation in a confectionery plant?
- (c) Is the life of a machine increased by keeping it clean? If so, how?
- (d) Give some specific instances of the abuse of equipment and how it has resulted in a loss or needless expense.

y Mance Quintette



### How to Clean

IN ANSWERING the general question No. 1, concerning methods and materials for cleaning confectionery machinery, practically all manufacturers stated that the sort of methods and materials used necessarily varied with the type of machine. However, one manufacturer went so far as to say that "in keeping equipment of any character clean I do not know of any substitutes for hot water, soap in its various forms plus a lot of 'elbow grease'." The consensus of opinion seems to favor the use of hot water and steam and plenty of each. There seems to be some slight difference of opinion as to the use of soaps and soap powders, which will be discussed under question No. 2.

The following are general expressions of opinion regarding the use of live steam:

"We have yet to find a way that is better than live steam."

"We use a spray gun with two hose connections, one for live steam and one for water. In this way we regulate the temperature of the water. It is essential that the machine be well oiled immediately after steaming."

"The only practical place to use live steam is around the depositor machine, and even there it is not the best idea. Open steam in a room is a bad thing."

"We use a hose through which we pass live steam onto depositors and such machines as are able to stand it. The danger from rusting is to be considered. A clean rag or dry air must be used for drying after steaming."

"There should be a large rubber hose steam connection and all parts should be steamed at least twice a day."

### When to Clean

As to the frequency of cleaning there was a general expression of opinion as well as a specific expression regarding the particular types of machinery. Some of the manufacturers felt that machinery should be cleaned more or less continuously with a thorough cleaning twice a day. Others stated that cleanliness should be "attained and maintained at all times." Again others seemed to feel

that all cooking utensils and candy machines should be cleaned immediately after using. It was suggested by some that the cleaning of machines should be done at the end of a day's run, and again the first thing in the morning. Cleaning during the noon hour by a special crew and in the evening after work by the same crew was suggested as a good method for obtaining clean machines without losing valuable time on the part of the machine operator. This did not relieve the operator from a responsibility for the care of his machine during working hours. Cleaning kettles

after each batch was given as a sound policy by several individuals. A very excellent general suggestion for the cleaning of kettles was given by one man as obtained from an article on sterilization and followed in his plant with success. It suggested the sterilization of kettles and depositors with live steam the first thing in the morning and not the last thing at night. This routine was based on the fact that if any syrup was missed it might ferment over night and thus offer an increased amount of contamination in the morning. The morning sterilization would leave the minimum amount of possible contamination.

#### (a) Copper Work and Utensils in Cooking Departments

Here there seems to be some difference of opinion as will be seen from the following methods outlined. One manufacturer uses one part of oxalic acid to three parts of powdered tripoli. This is used on copper kettles at the end of the day's work, and the cleaning is done by the night janitor force. A thorough rinsing is important. Another uses one ounce of trisodium phosphate to one gallon of water, especially for greasy utensils. Someone suggested coating the outside parts of copper work with valspar, which makes it much easier to keep clean. Again it is stated that good results are obtained in cleaning copper by using either Bon Ami or cream of tartar. Scouring once a day is here advised. Borax and hot water, or steam applied with a good scrub brush is another method described. Simple hot water with a good soap powder and a scrubbing brush is a method used by another experienced candy man. Cleaning the outside as well as the inside of copper kettles with steam and hot water each day is another method employed. To this is added the polishing of the outside with

a thin solution of citric acid and salt in water. Be sure to rinse.

#### (b) Chocolate Manufacturing, Coating Departments, Etc.

"Chocolate machinery needs daily cleaning with steam" is the statement from one manufacturer. Another large manufacturer, who

makes practically nothing but solid chocolate work, says that allowing chocolate to remain on machines does no harm as far as the finished product is directly concerned. However, he goes on to say that no good manufacturer would think of allowing

this condition to exist any more than a good housekeeper would allow her windows and walls to remain dirty. To avoid this in his plant he has his machines scraped and wiped, using large washing machines to keep the cleaning clothes in a satisfactory condition. In the chocolate department another manufacturer finds palette knives and scrapers important. Following the use of these is the daily washing with clean hot water. Enrobers in this same plant are cleaned daily by the operating crew as soon as the day's work is finished. Hoppers and scrap pans are washed out and conveyor belts are scraped and washed. Clean hot water is here used.

Enrobers should be taken down periodically to remove grease accumulation and in order to give a thorough cleaning. Another method suggested is the scrubbing of all chocolate machinery with hot water to which soda ash has been added. Use live steam in parts which cannot be reached with the scrub brush.

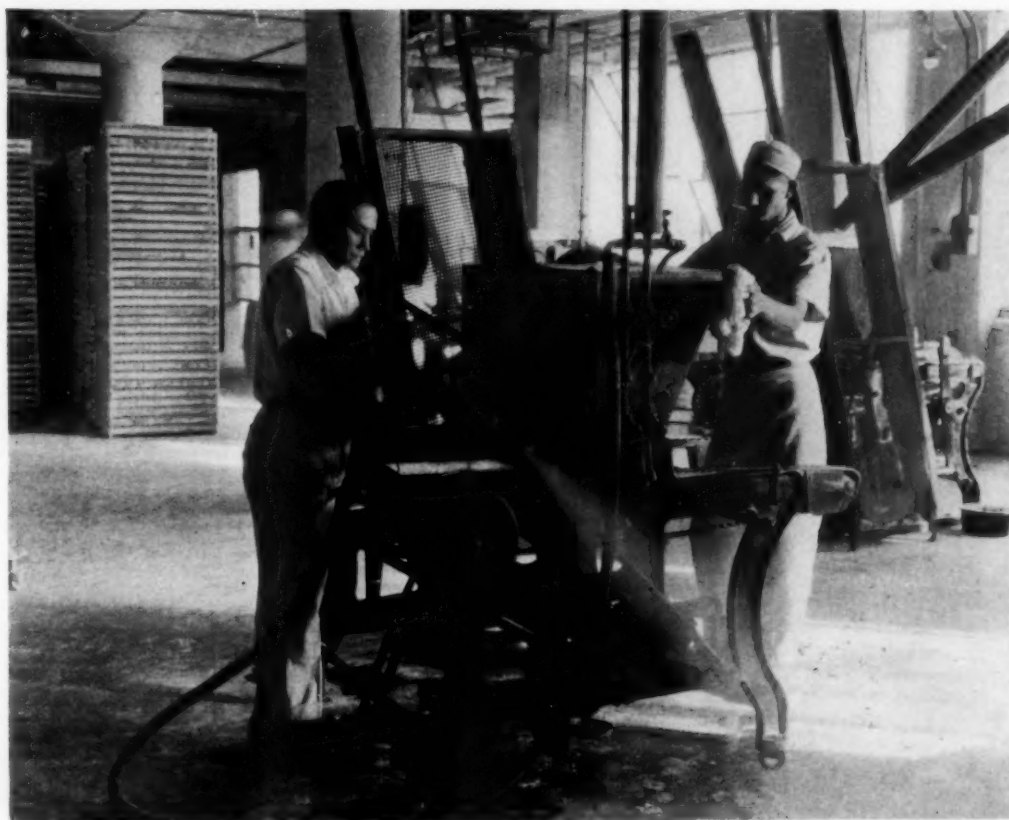
A wiping of all parts frequently with damp cheesecloth is considered sufficient by one candy superintendent. Dipping tables and small equipment should be scrubbed regularly (not stated as to definite times).

Again the following is given as a satisfactory method for chocolate machinery: Scrape off chocolate and wipe with a cloth rung out of hot water. Do this every evening. Once a week give a general scrubbing with a brush and hot water to which a little washing powder has been added.

#### (c) Starch Departments, Etc.

"Daily with steam hose" is the terse rule in one plant. "All machinery and equipment in this department should be brushed down daily, and any candy adhering to same should be taken off with live steam. Great care is here necessary, wiping all greased parts with a cloth.

*"We have two departments using depositors. One is scrupulously cleaned every day, while in the other the foreman is somewhat careless. With approximately the same amount of goods manufactured, the less clean department has required many more parts and repairs. Were the careless foreman not valuable in other ways we would be looking for another foreman."—C. C. Chase, Vice-President, Chase Candy Company.*



Cleaning depositor with live steam. (Photo, courtesy G. W. Chase & Son, St. Joseph, Mo.)

Scraping and sweeping of floors in starch department is a good daily procedure. Twice a week there should be a good scrubbing with hot water." Another uses much the same procedure, but adds the brushing down of walls each day—painting of the walls at regular intervals. The following is the most detailed suggestion made: "Depositors should be cleaned thoroughly every day with a steam hose. After steaming all foreign material off, wipe with a clean cloth all bearings and crevices. Starch bucks, printers and buck end of mogul should be brushed off every night. Depositors should be scrubbed off every night and steamed. Walls should be brushed down once a year and painted that often.

#### (d) Hard Candy Department

"Cleaned daily with steam hose." Cleaning off with a clean cloth following each batch is suggested. Clean with hot water after each batch. A good suggestion to make cleanliness easier in

the use of wood tables is to keep the surfaces sanded down and thus assure smooth surfaces. This tends to eliminate cracks and crevices.

*"The word of mouth advertising that a concern gets from its employes if the factory is clean is an unmeasurable quantity, but far-reaching in its effect."*—G. Russell Mann, New England Confectionery Co.

*"Clean equipment produces a finished product that calls for no apology." . . . "Cleanliness means life to machinery."*—Chas. P. Delano, Supt., Richards-Scheble Co.

Wash the slabs twice a week and keep covered when not in use. "Wash other implements often enough to keep them from becoming sticky." Beside wiping over slabs every morning with a clean cloth, another suggests washing twice a year with

hot water and soap powder. Cutters and dies should soak in clean water and be wiped dry with a clean cloth.

#### Precaution in Cleaning

In answering question No. 2, regarding precautions to be taken in cleaning methods and the use of cleaning materials, there seems to be an unusual difference of opinion. For instance, one manufacturer states that there is no substitute for the use of soap with elbow grease. Another man says that there has been more candy ruined by the use of soap powders, lye, etc.,





Using air hose and dry cloth following use of live steam.

than from any other cause. There is an almost unanimous expression of opinion against any cleaning material which has a distinct odor.

Again all state that where cleaning materials are used, careful and complete cleansing should follow. One man says that steam and hot water are enough, and that no soap powders should be used.

A suggested precaution of an excellent nature is that care must be taken to see that no bristles or hairs from brushes be left in kettles and about machines that have been cleaned. The same man calls attention to the fact that the use of too much live steam may increase the humidity of the room to an objectionable point. Another manufacturer states that soaps and powders may be used with good results if they are cleaned off after cleansing, so that no batch may come in contact with them. The same individual wisely cautions against the possible blowing of material from one machine to another in the use of air and steam hoses. The thorough drying of all parts after cleansing is universally recommended.

#### Does Machine Cleanliness Pay?

There was an absolute unanimity in the answering of question No. 3. Every sort of argu-

ment was advanced to show that cleanliness in the use of machinery was a profitable investment of time and money. *"Waste is cut down and profits become greater,"* said one production man. *"Production is increased, labor efficiency is bettered and the life of the machine is increased by proper regard for cleanliness of machines."* Another states that in addition to the factors noted above, cleanliness of machines stimulates employees to greater interest in their work and the care of their machines. It also develops a competition amongst employees to see which can have the cleanest and best machine. He suggests as one cause for failure in this regard is the failure to have one man responsible for the work.

Another candy superintendent states that a clean machine reflects itself in the morale of the worker and creates a pleasant atmosphere for him to work in. It makes breakdowns less frequent, thus increasing the production of man machine.

Another adds the statement that *better employees seek the cleaner factories and stay on the job longer. This cuts down the cost of labor turnover. The clean factories are advertised by word of mouth about the labor markets.*

Clean equipment produces a finished product

that calls for no apology. This and sanitation are good advertising. These alone are enough to overcome any extra overhead cost. Labor in a clean factory has more respect for itself and the product upon which it works than it has in a dirty factory. It also has more respect for the clean machine than for the dirty one. It treats the machine with the amount of care that the respect engenders. *"The saving in spoiled and unsalable goods will be sufficient to more than pay for the cost of cleanliness."* In addition, the overhead in machine repairs is saved or at least cut down to a minimum by cleanliness, while the life of the machine is greatly lengthened.

Cleanliness tends to eliminate the complaint from the consumer of foreign materials being found in candy. This one item alone is worth all the cost of cleanliness in the form of overhead. "If we keep our machinery and equipment clean we are glad to invite inspection. Each inspection means an assurance of cleanliness to our consumers, which means that they will buy our goods without any hesitation. This means increased sales."

One manufacturer closed his letter with the following paragraph: "No candy manufacturer can succeed in any sense of the word unless he operates a clean shop. In fact, I would rather make a little less if necessary and be able to walk through my shop and know that the food which I am producing is clean and pure."

One can hardly read the opinions of machine manufacturers and users of the machines without being convinced of the absolute necessity for cleanliness in the care of candy equipment. There have been given detailed statements of methods to be applied in the care of candy machinery. Each manufacturer has his own problem in this matter and each must be the chooser of the method best suited to his type of machinery. The articles written have not been intended as dogmatic in any regard. The experience of men well tried in the candy industry have been sought. Their statements have been boiled down and compiled in a form which, it is to be hoped, may be of help to others in the industry. They have all been unanimous in their statements that cleanliness is a business asset of the highest order. It is to be hoped that some sort of standardization of methods may be developed which will help to maintain the best methods throughout the industry as a whole.

The candy manufacturers and the machine manufacturers who with busy days and under the pressure of business were good enough to take the time necessary to answer the questions in full rendered a valuable service in making these articles possible. They contributed the facts for compilation. The author wishes to express his thanks to them for their courtesy and help. Any possible help which may be derived from these articles has as its source these men in the candy industry who have shown such an admirable spirit of constructive cooperation.

"We find that cleanliness is the basis for any well-organized candy factory." . . . "Cleanliness practically eliminates complaints of foreign material being found in candy."—M. M. Kaplan, Manager, Macy's Factory.

"A machine that is kept thoroughly clean and oiled at the proper time will do a third more work than otherwise."—Maxcy Ross, Supt., Bishop & Co.

"If the same good housekeeping prevailed in the factory as prevails in well-kept homes, there would be little excuse for anyone telling you how to keep your factory clean."—J. J. Ballweg, Novia Candy Company.

## Practical Candy Cost Finding

—in three parts—

# Why the Candy Industry Is Infested With Impractical Cost Men

*The first of a series of three articles on Candy Cost Finding*

**By Deane M. Freeman**

Superintendent, F. H. Roberts & Co., Boston  
Manufacturers of "Apollo" Chocolates

(EDITORIAL NOTE: Mr. Freeman is particularly well qualified to discuss candy costs, not only because of his successful record as superintendent of the Apollo plant but also because of his long engineering experience with The Stevenson Corporation, Industrial Engineers. We are glad to announce to our readers that Mr. Freeman is writing a series of three articles, exclusively for THE MANUFACTURING CONFECTIONER on "Cost Finding." The first of these is given below. The second will deal with factory accounts. The third will outline cost forms and other details of cost records.)

**E**XPERIENCE has shown that practical candy men are frequently very impractical cost men. To this is due much of the financial grief in the confectionery industry today.

The average practical candy man who has been working for someone else is apt to think that his knowledge plus a small amount of capital is an open sesame to wealth. With the hard-earned savings of a life-time, the money of a few friends and an optimistic salesman or two from some larger house, he embarks merrily on the road to riches. For a while things move along swimmingly—plenty of business coming in, and the future looks rosy. Then somewhat suddenly the discovery is made that the actual amount of money coming in is not quite equal to the outgo, that unforeseen expenditures and expenses are making inroads into the capital. This is due to the fact that while plenty of goods are being sold, the practical candy man has failed to figure costs accurately enough and to include all of the items so that in setting his selling prices there has not been enough margin to take care of all of the expenses which arise.

### Product Will Not Sell Itself

Now, as a cold matter of fact, no candy maker in the world has such superior formulas that he can turn goods out in any volume without a capable merchandising organization, for no matter how good the product it will not sell

itself. Nor is there any candy maker whose skill or imagined secrets give him such an advantage over competitors either in operating or formula expenses that he can disregard actual costs.

In reality nearly all confectionery manufacturers are on a more or less equal footing so far as material and labor costs are concerned. Even the much talked of "overhead" averages out surprisingly near the same percentage whether a concern is doing a business of \$100,000 a year or \$5,000,000 a year. In fact, the larger concerns have a little the best of it because of their large buying power and the larger relative volume of business over which their overhead is spread. Consequently, success in the confectionery industry depends on small superiorities in many things rather than great superiority in one item together with an exact knowledge of all things rather than general guesses and rosy estimates.

So much for a general discussion. To get down to cases, this article is written to show the necessity of an exact knowledge of costs.

### John Brown Goes Into Business

Let us suppose that John Brown is going into business. He will make a little of everything—some packages, a line of bulk, some bars, and perhaps hard candy or some other specialty. He will buy reasonably good equipment which includes an enrober or two.

Brown is a good candy maker. In fact, he



was general foreman of Smith's factory and drawing down a hundred a week—*every week*. He knows candy; therefore, thinks that if he can get \$20,000 to \$25,000 together and persuade a good salesman to go into partnership with him he will make a "clean up." Nothing could be simpler—make candy out of good old six-cent sugar, a little labor and overhead, and a good salesman will sell it anywhere from twenty-five to forty cents a pound. No Florida land for him—something sure, the good old six-cent sugar and the forty cents a pound candy.

But how about the scenes between the six-cent sugar and the forty cents a pound sales. These scenes are very, very vague, because neither Brown nor the salesman know anything about them; but they are just as important as Brown's or the salesman's knowledge. They include buying, cost finding and keeping, stock control, financing and credits, and usually some kind of advertising. None of these are more important than cost finding, yet usually more attention is paid to them. Brown probably figures his own costs at the start, and may continue to do this until the business reaches a volume of two hundred thousand.

#### Method Based on Imaginary Profit

His method is to figure the actual material, kid himself on wastage, estimate the *least possible time* to perform each operation, pick an overhead out of the air, which to the best of his knowledge includes everything, stir together and serve hot, and this usually gives him a selling price showing an imaginary profit of from 20 to 30 per cent, and a chance to undersell intelligent competition. He doesn't begin to give his costs the attention and thought that he does his formulas and product. If he did, he would either learn how to figure costs or else hire someone who did. He assumes that he knows more about candy costs than firms with years of experience whose continued success is proof of their complete knowledge and business judgment.

There are a lot of Browns going into the candy business every year, and there are also a lot of them already more or less established in the industry—but the ones who will eventually succeed are the ones who make a superior product, who know all the phases of their business so well that they can calculate accurately, first what a piece costs, and how much it must be sold for to yield a gross margin of profit sufficient to cover overhead and all those additional expenses which the practical candy man seldom thinks worth considering until bitter experience teaches him that the total income must be greater than the total outgo if he is to continue in business.

If a business such as Brown's is made up of

the main classes of hard candy and of hand and machine dipping, it is absolutely necessary to have a factory ledger which *correctly proportions* the overhead. For example, it is obviously unfair to burden the hand dipping with the depreciation of the enrober machines, and yet that is what a general method of distributing overhead does. Where only general overhead is considered, the net result is that machine dipping appears considerably cheaper than it actually is, and conversely, hand dipping more expensive than it really is. Profits made in one department disappear in the deficit of some other department.

#### Distribution of Expense Items

Taking some of the more important overhead items, the writer suggests each item of overhead should be distributed on the basis indicated opposite to it and that each department be charged only with the expense incurred for its benefit.

#### A. OVERHEAD

Items—Basis of Distribution

Rent—By floor space.

Steam power—By kettle capacity X hours used.

Gas power—By size pipe X hours used.

Electric power—By H. P. hours.

Electric light—By watt hours.

Janitor service and sanitation—By floor space.

Foremen and assistants—Against each incurring department.

Taxes, building—Include in rent.

Taxes, equipment—Against departmental machine valuation.

In freight—Against each raw product.

Out freight—Against outward pounds.

Depreciation, building—Include in rent.

Depreciation, machinery and equipment—Against department machine valuation.

Liability, employees—Against each departmental payroll.

Liability, public—As sales expense.

Fire insurance—Split between building, equipment and stocks.

Shipping expense—Against sales dollar.

Repairs to building—Against rent.

Repairs to machinery—Against each incurring department.

Non-productive labor—Against each incurring department.

General factory—A catch-all for such items as raw stock, finished stock, inside trucking, unclassified helpers, and this in turn is split over the productive departments.

#### B. ADMINISTRATIVE

General office expense.

Executives.

#### C. MERCHANDISING

Sales executives.

Salesmen's salaries or commissions.

Returns and allowances.

Advertising and dealer helps.

**SUMMARIZING TOTAL COSTS**

1. Material cost with allowance for scrap.
2. Productive labor.
3. Operating allocated to productive departments as outlined above to arrive at departmental overheads which should be expressed as a percentage of the departmental productive payrolls.
4. Administrative, as a percentage of sales dollars.
5. Merchandising, as a percentage of sales dollars.

**Each Department Charged for What It Gets**

This careful segregation of overhead items insures that each department is charged only for what it gets and does not have to help pay for expenses which really belong to some other division of the business, and is the only way of determining actual costs.

For example, assume that administrative expense is 3 per cent, and sales expense is 17 per cent, and a profit of 10 per cent is desired, totalling 30 per cent. As the total selling price is 100 per cent, we have a permissible allowance for material, productive labor and overhead of 70 per cent. Therefore, it is necessary to divide the total manufacturing cost (material, productive labor and overhead) by 70 per cent and multiply by 100 to arrive at the proper selling price for each package. The formula for computing selling price on this basis is:

$$\frac{\text{Material} + \text{productive labor} + \text{factory overhead}}{70} \times 100 = \text{selling price.}$$

If a manufacturer is using a trial batch cost as his basis for figuring, which is the easiest method for a small plant where piece work is not in operation, he should be sure that the time allowances for various operations are set sufficiently high to account for such lost time as waiting for materials, stalling, break-downs, seasonal shut-downs, etc., which do not show up during trial runs but always occur under normal productive conditions.

**Monthly Production Record**

Further, he should carry his cost extensions out in three separate divisions for each article as follows: 1, material; 2, productive labor; 3, overhead, and should keep a monthly production record showing everything produced. This record should be extended by each of these three cost factors, and (1) the result of the monthly production multiplied by the standard material allowance should equal the total material used for the month; (2) the monthly production times the standard productive labor cost should equal the total productive labor payroll;

(3) the monthly production times the overhead should equal total factory overhead expense. These three items added together should equal the total amount of money paid out or expense incurred for the month, after due allowance is made for the increase or decrease in goods in process. If the costs are not at least approximately correct, errors will be shown up by this method.

For example:

**Finished Product Report for Bulk for June, 1925**

|   | Material | Labor | Overhead |
|---|----------|-------|----------|
| 1,000—5-lb. <i>Chocolate Caramels</i>       |          |       |          |
| x Total material cost (\$0.725) .....       | \$ 725   | ....  | ....     |
| x Total productive labor cost (\$0.085) ..  | ....     | \$ 85 | ....     |
| x Total overhead labor cost (\$0.065) ..... | ....     | ....  | \$ 65    |
| 1,000—5-lb. <i>Chocolate Nougatines</i>     |          |       |          |
| x Total material cost (\$0.730) .....       | 730      | ....  | ....     |
| x Total productive labor cost (\$0.080) ..  | ....     | 80    | ....     |
| x Total overhead labor cost (\$0.060) ..... | ....     | ....  | 60       |

**Finished Product Report for Fancy Packages**

|  |         |       |       |
|--|---------|-------|-------|
| 5,000—1-lb. <i>Red Rose Packages</i>         |         |       |       |
| x Total material cost (\$0.25) .....         | 1,250   | ....  | ....  |
| x Total productive labor cost (\$0.05) ..... | ....    | 250   | ....  |
| x Total overhead cost (\$0.04) .....         | ....    | ....  | 200   |
| Totals .....                                 | \$2,705 | \$415 | \$325 |

Therefore—

|   |         |
|---|---------|
| Total material used for month should equal .....    | \$2,705 |
| Total productive labor for month should equal ..... | 415     |
| Total overhead for month should equal .....         | 325     |

All this may sound rather complicated, but when worked out is not particularly difficult, nor does it require more than half the time of a clerk for the average small plant, and certainly the results obtained are worth many times the additional work, for such knowledge is frequently the difference between success and failure in an industry where competition is as keen and profits as small as in the confectionery business today.

*Next Month—"The Factory Ledger"*

# NEWS DIGEST

**The Tazwell Candy Company**, manufacturers and jobbers of Pekin, Ill., has leased a building at 348 Margaret street, which will be used as a show room, a store house for finished goods and supplies, and an office. Manufacturing will be continued at the Johannes candy shop, 343 Court street.

**The Leslie Candy Company**, manufacturers and jobbers, of Knoxville, Tenn., have taken over an additional building and converted it into office and storage space. The addition is adjacent to the original plant at 316 East Depot street.

**Ross Lewis** of New Albany, was elected president of the Indiana Confectioners' Association at the thirtieth annual meeting held at the Hotel Severin, Indianapolis, January 21. Others elected were Homer J. Williamson, Indianapolis, first vice-president; Edward Bromm, Evansville, second vice-president; and E. E. Wood Nichols, Indianapolis, secretary-treasurer. Members named on the executive committee were, Omar C. Mewhinney, Terre Haute; Wm. C. Dickmeyer, Fort Wayne, and Oscar Heider, Indianapolis.

**The Heit-Miller-Lau Company** of Fort Wayne, has established a branch store in South Bend, Indiana. C. H. Stephenson, formerly in the grocery business at Auburn, Indiana, has charge of the new store.

**The Colorado Confectioners' Association** at a meeting held January 12, elected W. H. Shaetzel of Denver, president. The organization endorsed the plan of the National Confectioners' Association for a national confectionery advertising campaign.

**The H. D. Foss Candy Company** of Cambridge, lost heavily in a fire which damaged the building the company occupies at 322 Main street, Cambridge, January 21. The fire started in the cellar and soon enveloped the entire building in flames. The total damage to the building and contents was roughly estimated at about \$65,000. The Foss Company occupies the second floor of the building, and the Gralock Candy Company occupies the third floor. The fire started from an oil burning furnace in the cellar.

**Page and Shaw** sales may reach \$5,500,000 for the year 1925, according to reports issued by the company. Last year's sales ran ahead of the previous years poundage by five per cent, but were slightly under in dollar volume, due to reducing of price to \$1 on plain packages for the first nine months. At the close of 1925, current assets were estimated at \$823,119, with current liabilities of \$242,301, leaving a working capital of \$580,818.

**Increase in prices of cocoa** and possibly in chocolates may result in Canada if the new treaty with the British West Indies is ratified and the 1½ cents per pound duty is imposed on cocoa beans imported

from British possessions other than the West Indies, it was stated by F. W. T. Sanders, vice president and general manager of J. S. Fry & Sons, Ltd., in a recent meeting of sales representatives in the Club Candian at Quebec. Cocoa and chocolate manufacturers of Canada are bringing pressure to bear to defeat the proposed duty. An increase in Canadian prices would be exceedingly serious to Canadian manufacturers in view of the fact that it would enable U. S. manufacturers to undersell Canadian producers in their own market.

**The Golden Rod Candy Company** of Frankfort, Indiana has filed a preliminary certificate of preliminary dissolution.

**The Mary Lee Candy Company** has leased through the Willis Winchester Company the ground floor of 1701 Market street, Philadelphia.

**The Southern Wholesale Confectioners' Association** will hold their annual convention in Chattanooga, July 14, 15 and 16. This announcement was made following a meeting of the executive committee at Chattanooga, January 16.

**Edward R. Heitzman**, secretary and treasurer of the Central Frog and Switch Company has been elected president of the Putman Candy Company, Cincinnati, to succeed Frederick E. Spicker. Mr. Spicker, Andreas Burkhardt, and George J. Buhr retired from the board. Their places were taken by H. Raymond Ashbrook, Albert Kenker, Adam West, and C. T. Wetherell.

**The Northwestern Candy Company** of Des Moines, Iowa, through Frank J. Comfort, referee in bankruptcy, has offered to pay 31 cents on the dollar to creditors. Liabilities of \$124,483.86 are listed, with assets of more than \$126,000.

**The C. B. Wuenschel Company, Inc.**, Fifth and French streets, Erie, Pa., wholesale confectionery and tobacco dealers, have filed a voluntary petition in bankruptcy in the U. S. District Court. Liabilities are listed at \$7,742.66, and assets at \$4,723.43.

**The Opelika candy factory**, operated by the Mitchell Candy Company of Opelika, Alabama, opened for business recently in the building at the corner of Railroad avenue and Tenth street.

**Employees of the Cox Confectionery Company**, Boston, Mass., held their annual mid-winter dance and reunion in Music Hall, Friday evening, January 22.

**The Iceland Products Corporation** of Albany, N. Y., chartered under Delaware laws, has filed a certificate with the secretary of state changing its corporate name to C-Y Chocolate Yeast Company, Inc.





## Don't buy gelatins on a strength basis only

THE strength of a gelatin is always an extremely important matter, but when this gelatin is purchased for use in food products, *quality* is equally important.

Keystone Gelatins for years have been recognized as products of the very highest quality. They not only have the necessary strength, but good odor, clarity, sweetness, uniformity and other desirable qualities.

## KEYSTONE Gelatins

Keystone Gelatins are made from the best obtainable raw materials and under the strictest sanitary conditions. Because of their exceptional quality, they have attained the highest standing among consumers. They can be used with absolute assurance of the most satisfactory results.

We will be glad to submit samples of Keystone Gelatins at your request. You will find them greatly superior.

**The American Agricultural  
Chemical Co.**

*Michigan Carbon Works*

**P. O. Box 814      Detroit, Mich.**

**The Nyack Confectionery Company**, Nyack, N. Y., has filed a certificate with the secretary of state dissolving its corporate interest.

**William C. McDonald**, 57, head salesman of the chocolate and cocoa department of the J. G. McDonald Chocolate Company, and a member of the firm, which is located at Salt Lake City, Utah, died January 18 at a Salt Lake City hospital.

**The Louis K. Liggett Company**, subsidiary of the United Drug Company, will establish a confectionery manufacturing plant at Salt Lake City, Utah.

**The Douglass Candy Company**, which occupies an entire city block at 3917 Lancaster avenue, Philadelphia, was badly damaged by a fire which swept through the building, January 10. The second and third floors, and the roof were badly damaged. Water and smoke damaged the first floor where the offices are located. Total loss to building and contents was estimated at \$100,000.

**The Gorton Chocolate Company, Inc.**, Corning, New York, has filed a certificate with the secretary of state, increasing the capital stock from \$40,000 to \$150,000.

**The Nissly Chocolate plant** at Florin, Pa., was recently appraised by Fred Klein of the Klein Chocolate Company, and Israel Hershey of the Hershey Chocolate Company. They were named by the court after counsel for creditors had filed a plea to that effect. The plant has closed.

**Leading Wholesale Candy Co.**, New York, \$50,000; M. and F. Shapiro, J. Glickman. Attorney, J. D. Shifrin, 132 West 43d street.

**Portland Chocolate Company**, Portland, Ore. M. G. Zeazeas, James I. Zeazeas, and John Zeazeas, incorporators. Capital \$15,000.

**Elanem Candy Co., Inc.**, 786 Broad street, Newark, N. J., to manufacture confectionery, ice cream, etc. Capital \$125,000.

**St. Regis Candies, Inc.**, Houston, Texas. Capital \$125,000. Paul A. Xanthull, S. N. Novas, and R. P. Donigan, incorporators.

**The Cocoa Manna Company, Inc.**, New York City, to manufacture cocoa, chocolate, etc. Capital \$25,000. Edw. Petiger, Fae Feldman, and Nathan Raff, directors and subscribers.

**Thinshell Candies, Inc.**, 1407 West Jackson blvd., Chicago. Capital \$60,000. E. F. Chandless, Martin Cassell, and Gross Williams, incorporators.

**Catherine Sweets, Inc.**, New York City, manufacturing sugar products. Capital \$25,000. Edward, Alfred and Henry Dianchi, directors and subscribers.



Y.,  
ate

the  
Mc-  
the  
lied

the  
fec-  
ity,

pies  
hil-  
ept  
and  
red.  
ere  
and

ing.  
ary  
000

was  
lein  
er-  
by  
d a

50,-  
J.

M.  
eas,

ew-  
am,

ital  
P.

ity,  
25,-  
aff,

vd.,  
ar-

nu-  
Ed-  
ub-